

Date Reported: 09/20/13
Date Received: 07/10/13
Date Sampled: Not Supplied
Time Sampled: Not Supplied

Lab number: 2155604

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date	Verified-Date
Carbon Nitrogen Ratio C/N	17 : 1			CALCULATED	mjs-07/10	aut-07/10
Total Carbon	0.870	%	0.050	C ANALYZER	jjb-07/11	mgn-07/12
Nitrogen Total (N)	0.05	%	0.01	AOAC 993.13	jdb-07/11	cmw-07/19
Bromide	11	mg/kg	10	EPA 300.0(MOD)	mjs-09/20	mjs-09/20
Cation Exchange Capacity	37.7	meq/100g	0.1	EPA 9081	jad-07/15	cmw-07/18
Chloride	200	mg/kg	10	SM 4500 - CL- E	rmm-07/17	cmw-07/18
Fluoride	27	mg/kg	10	EPA 340.2	akj-07/12	bab-07/12
Selenium (total)	1.77	ppm	0.50	ICP-MS	akj-09/10	bab-09/12
Elemental analysis	see attached	N.A.			alm-09/19	mjs-09/20
pH	8.6	S.U.		PH METER		

Notes:
AOAC - Association of Official Analytical Chemists.

For questions contact

Heather Ramig
Heather Ramig
Client Service Representative
heather@midwestlabs.com (402)829-9891

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Analysis Performed	Result	Units	Instrument	Analyst Date	Verifier Date
Calcium	17080	ppm	ICP	akj/09/10/13	bab/09/10/13
Magnesium	4369	ppm	ICP	akj/09/10/13	bab/09/10/13
Manganese	390	ppm	ICP	akj/09/10/13	bab/09/10/13
Phosphorus	195	ppm	ICP	akj/09/10/13	bab/09/10/13
Potassium	7405	ppm	ICP	akj/09/10/13	bab/09/10/13
Silicon	32.7	%	WDXRF	akj/09/10/13	bab/09/10/13
Sodium	3612	ppm	ICP	akj/09/10/13	bab/09/10/13
Aluminum	9.4	%	WDXRF	akj/09/10/13	bab/09/10/13
Antimony	N.D.	ppm	ICP	akj/09/10/13	bab/09/10/13
Arsenic	3.1	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Barium	1069	ppm	ICP	akj/09/10/13	bab/09/10/13
Beryllium	N.D.	ppm	ICP	akj/09/10/13	bab/09/10/13
Bismuth	N.D.	ppm	ICP	akj/09/10/13	bab/09/10/13
Boron	58.6	ppm	ICP	akj/09/10/13	bab/09/10/13
Cadmium	0.04	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Cerium	72.9	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Cesium	5	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Chromium	3.7	ppm	ICP	akj/09/10/13	bab/09/10/13
Cobalt	1.6	ppm	ICP	akj/09/10/13	bab/09/10/13
Copper	6.3	ppm	ICP	akj/09/10/13	bab/09/10/13
Dysprosium	1.9	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Erbium	1.1	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Europium	0.79	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Gadolinium	3.3	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Gallium	7.2	ppm	ICP	akj/09/10/13	bab/09/10/13
Germanium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Gold	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Hafnium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Holmium	0.36	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Iodine	0.1	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Indium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Iridium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Iron	1.1	%	WDXRF	akj/09/10/13	bab/09/10/13
Lanthanum	40.9	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Lead	27	ppm	ICP	akj/09/10/13	bab/09/10/13
Lithium	19.2	ppm	ICP	akj/09/10/13	bab/09/10/13
Lutetium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Mercury	N.D.	ppm	CVAF	akj/09/10/13	bab/09/10/13
Molybdenum	0.32	ppm	ICP	akj/09/10/13	bab/09/10/13
Neodymium	23.8	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Nickel	2.9	ppm	ICP	akj/09/10/13	bab/09/10/13
Niobium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Osmium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Palladium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Platinum	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Praseodymium	7.3	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Rhenium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Rhodium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Rubidium	59.7	ppm	ICP	akj/09/10/13	bab/09/10/13
Ruthenium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Samarium	3.5	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Scandium	2.89	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Selenium	1.8	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Silver	0.18	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Strontium	180	ppm	ICP	akj/09/10/13	bab/09/10/13
Sulfur	278	ppm	ICP	akj/09/10/13	bab/09/10/13
Tantalum	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Terbium	0.39	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Tellurium	N.D.	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Thallium	0.44	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Thorium	N.D.	ppm	ICP	akj/09/10/13	bab/09/10/13
Thulium	0.16	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Tin	1.3	ppm	ICP	akj/09/10/13	bab/09/10/13
Titanium	0.14	%	WDXRF	akj/09/10/13	bab/09/10/13
Tungsten	0.12	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Uranium	1.8	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Vanadium	11.8	ppm	ICP	akj/09/10/13	bab/09/10/13
Ytterbium	1.1	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Yttrium	12.2	ppm	ICP-MS	akj/09/10/13	bab/09/10/13
Zinc	25	ppm	ICP	akj/09/10/13	bab/09/10/13
Zirconium	36.4	ppm	ICP	akj/09/10/13	bab/09/10/13

Notes:
N.D. - Not Detected
Delect - Detected, Not Quantifiable